CLAIMS

What is claimed is:

1. A sound processing system for use in an automotive vehicle of the type which includes at least one door and at least one door-lock, said sound processing system comprising:

at least one sound sensor coupled to said vehicle for receiving sound external to said vehicle; and

a sound processor coupled to said at least one sound sensor for comparing said sound signals to first and second predetermined sets of characteristics corresponding respectively to first and second categories of sound.

2. A sound processing system according to claim 1 wherein said at least one sound sensor is a microphone.

3. A sound processing system according to claim 2 further comprising a user input coupled to said sound processor and located substantially on said vehicle's exterior for activating said sound processor when said vehicle is not occupied.

4. A sound processing system according to claim 3 wherein said sound processor is activated for a predefined time period.

5. A sound processing system according to claim 4 wherein said external sound comprises a vehicle access code.

6. A sound processing system according to claim 5 wherein said second set of predetermined characteristics correspond to a correct vehicle access code.

7. A sound processing system according to claim 4 wherein said external sound comprises an emergency traffic alert.

8. A sound processing system according to claim 7 wherein said first set of predetermined characteristics correspond to an emergency traffic alert.

9. A sound processing system according to claim 8 wherein said emergency traffic alert is a siren.

10. A sound processing system according to claim 6 wherein said user input comprises at least one door handle.

11. A sound processing system according to claim 10 further comprising a feedback generator for providing a user recognizable response when at least a part of said access code is recognized by said processor.

12. A sound processing system according to claim 11 wherein said feedback generator comprises a display.

13. A sound processing system according to claim 11 wherein said feedback generator comprises a light-emitting diode.

14. A sound processing system according to claim 11 wherein said feedback generator comprises a sound generator.

15. A sound processing system according to claim 8 wherein said at least one microphone comprises at least a first microphone located proximate a front end of said vehicle and at least a second microphone located proximate a back end of said vehicle.

16. A sound processing system for use on an automotive vehicle of the type which includes at least one door having a door-lock and a door handle, said system comprising:

at least one sound sensor coupled to the exterior of said vehicle for receiving an external sound;

a vehicle occupancy sensor for indicating when said vehicle is occupied;

an alert generator for notifying an occupant of said vehicle when said external sound is an emergency signal;

a door control module coupled to said door-lock for unlocking said door; and

a sound processor coupled to receive said external sound and coupled to said vehicle occupancy sensor, said alert generator, and said door control module for comparing said sound to a first set of characteristics if said vehicle is occupied and to a second set of characteristics if said vehicle is unoccupied, said sound processor for activating said alert generator if said vehicle is occupied and said sound substantially matches said first set and for activating said door control module if said sound substantially matches said second set and the vehicle is unoccupied.

17. A sound processing system according to claim 16 wherein said at least one sound sensor is a microphone.

18. A sound processing system according to claim 17 wherein said sound processing system is activated upon actuation of said door handle.

19. A sound processing system according to claim 18 wherein said sound processor is activated for a predefined time period.

20. A sound processing system according to claim 19 wherein said second set corresponds to a vehicle access code.

21. A sound processing system according to claim 19 wherein said first set corresponds to an emergency traffic alert.

22. A sound processing system according to claim 20 further comprising a feedback generator for providing a user recognizable response when at least a part of said access code is recognized by said processor.

23. A sound processing system according to claim 22 wherein said feedback generator comprises a display.

24. A sound processing system according to claim 15 wherein said at least one microphone comprises at least a first microphone located proximate a front end of said vehicle and at least a second microphone located proximate a back end of said vehicle.

25. A method for providing keyless entry to an automotive vehicle and for alerting an occupant of said vehicle of an external emergency sound, said vehicle having at least one door equipped with a door lock and door access mechanism, said method comprising:

receiving an external sound;

determining if said vehicle is occupied;

comparing said sound with a first and second sets of characteristics, said first set corresponding to an emergency sound and said second set corresponding to an audible access code;

generating a user recognizable alert if said sound substantially matches said first set; and

unlocking said door if said sound substantially matches said second set.

26. A method according to claim 25 wherein said user recognizable alert is a visual alert.

27. A method according to claim 25 further comprising generating a system activation signal before said comparing.